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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,323	05/09/2005	Jin Soo Seo	2167.008US1	4880
21186	7590	10/03/2007		
SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER	
			BITAR, NANCY	
			ART UNIT	PAPER NUMBER
			2624	
			MAIL DATE	DELIVERY MODE
			10/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/534,323	SEO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Nancy Bitar	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 May 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/13/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### Examiner Notes

1. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haistma et al (WO 2065782) in view of Chen et al ( Symmetric Phase-Only Matched Filtering of Fourier-Mellin Transforms for Image Registration and Recognition).

As to claim 1, Haistma et al teaches a method of extracting a fingerprint from a multimedia signal, comprising the steps of: extracting (12,13) a set of robust perceptual features from the multimedia signal (robust hashes are derived from specific features of the information signal, page 6, lines 31-32); subjecting (15) the extracted set of features to a Fourier-Mellin transform ( Fourier transform circuit 13); converting (16,19) the

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transformed set of features into a sequence constituting the fingerprint( note that the robust properties are subsequently converted into bits) . While Haistma et al meets a number of the limitations of the claimed invention, as pointed out more fully above, Haistma fails to specifically teach the conversion with respect to the Fourier Mellin transform that consist of a log mapping and a Fourier transform. Specifically, Chen et al teaches the use of Fourier Mellin Transform invariant descriptor. Because the Fourier Mellin transform allow one to reduce the dimension of the parameter space in which the correlation quality figure is optimized it would have been obvious to one of ordinary skill in the art to use the transformation of Chen in Haistma Fourier transform circuit 13 in order to match rotated and scaled images accurately and efficiently and guaranteeing a high discrimination power and excellent robustness in the presence of noise. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

As to claim 2, Chen et al teaches method as claimed in claim 1, wherein said converting step includes converting (16,ABS) the magnitudes of the Fourier-Mellin transform (note that the magnitude field is sufficient to estimate the filter transfer function, (14)(15), section III).

As to claim 3, Chen et al teaches a method as claimed in claim 1, wherein said converting step includes converting (16,.DELTA..phi.) the derivative of the phase of the Fourier-Mellin transform ( note that the transfer function of a phase-only matched filter[2] is equal to the spectral phase of the image (5), and (6) , section II ).

As to claim 4, Haistma et al teaches method as claimed in claim 1, wherein the multimedia signal is an audio signal (robust hashing of audio signals, page 4, lines 20-32) and said Fourier-Mellin transform includes a one-dimensional log mapping process being applied to the set of perceptual features (see Chen et al section III).

As to claim 3, Chen et al teaches a method as claimed in claim 1, wherein the multimedia signal is an image or video signal and said Fourier-Mellin transform includes a two-dimensional log-polar mapping process being applied to the set of perceptual features (a two dimensional matching technique based on the symmetric phase-only matched filtering of the Fourier-Mellin invariant descriptors of the images by using the polar-log mapping, section III).

As to claim 6, Chen et al teaches a method as claimed in claim 1, wherein the multimedia signal is an image or video signal (audio, video, image) and said Fourier-Mellin transform includes a two-dimensional log-log mapping process being applied to the set of perceptual features (the Fourier- Mellin matching, section IV).

As to claim 7, teaches a method as claimed in claim 1, wherein said extracting step includes normalization of the set of perceptual features ( section VI; part C)

Claims 8 differ from claim 1 only in that claim 1 is a method claim whereas; claim 8 is an apparatus claim. Thus, claim 8 is analyzed as previously discussed with respect to claim 1 above.

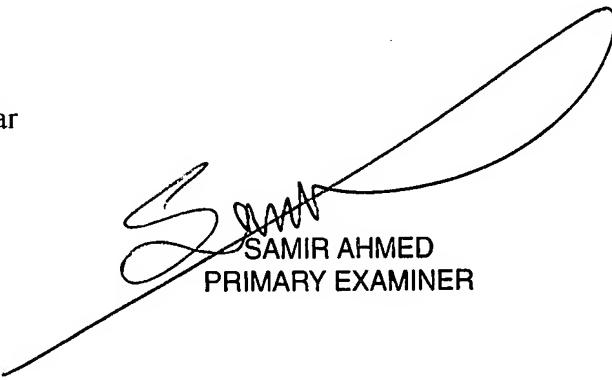
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nancy Bitar whose telephone number is 571-270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nancy Bitar

9/25/2007

  
SAMIR AHMED  
PRIMARY EXAMINER